AUTHOR INDEX, VOLUME 1

Abe, A., and Goodman, M.: Optical rotatory properties of polyaldehydes, 2193
Abdul-Karim, A.: see DeWinter, W.
Acker, T.: see Odian, G.
Acres, G. J. K., and Dalton, F. L.: Synthesis of styrene–methyl methacrylate nonrandom copolymers in emulsion systems with cobalt-60 gamma radiation, 2419
——, and Dalton, F. L.: On Co^{60} gamma ray-initiated emulsion polymerization, 3009
Alaniya, V. P.: see Topchiev, A. V.
Alexandrowicz, Z., and Katchalsky, A.: Colligative properties of polyelectrolyte solutions in excess of salt, 3231
——: see Katchalsky, A.
Alfred, L.: see Mattison, L. E.
Allcock, H. R., and Kugel, R. L.: Ionic polymerization of diphenylvinylphosphine oxide, 3627
Anderson, D. B., Burnett, G. M., and Gowan, A. C.: Some novel effects in solution polymerization, 1465
Anderson, E. W.: see McCall, D. W.
Arakawa, T.: see Wunderlich, B.
Arnett, R. L., Smith, M. E., and Buell, B. O.: An improved ebullioscope for high polymers, 2753
Avny, Y.: see Zilkha, A.
Azori, M.: see Tüdös, F.
Bacskai, R.: Polymerization of alicyclic epoxides with aluminum alkyl catalysts, 2777
——, and Lapporte, S. J.: The chemical structure of polyisobutylene obtained by Ziegler catalysis, 2225
Baer, E.: see Limbert, F. J.
Baer, M.: Anionic block polymerization. I. Block polymerization of styrene on polystyrene, 2171
Baker, W. P., Jr.: Polymerization of allene by organometallic initiation, 655
Baldwin, M. G.: Primary radical termination in methyl methacrylate polymerization, 3209
——, and Reed, S. F.: Polymerization studies on allylic compounds. I, 1919
Barrer, R. M., Barrie, J. A., and Rogers, M. G.: Heterogeneous membranes: diffusion in filled rubber, 2565
Barrie, J. A.: see Barrer, R. M.
Barzakay, S.: see Ottolenghi, A.
——: see Zilkha, A.
Bassett, D. C., Keller, A., and Mitsuhashi, S.: New features in polymer crystal growth from concentrated solutions, 763
Bassett, K. H., Liang, C. Y., and Marchessault, R. H.: The infrared spectrum of crystalline polysaccharides. IX. The near infrared spectrum of cellulose, 1687
Bataille, P., and Patterson, D.: An application of the Prigogine solution theory to intrinsic viscosities in polyisobutylene–*n*-alkane systems, 3265
Baumann, G. F., and Steingiser, S.: Rheological measurements on polycarbonate, 3395
Beck, K.: see Toggenburger, R.
Benerito, R. R., Berni, R. J., McKelvey, J. B., and Burgis, B. G.: Study of the base-catalyzed cellulose–*d,l*-butadiene diepoxide reaction, 3407
Berens, A. R.: see Krimm, S.
Berge, J. M.: see Shultz, A. R.
Berger, M.: Steric structures in copolymerization, 1601
——, and Buckley, D. J.: Structure effects and related polymer properties in polybutadiene. I. Preparation and characterization, 2945
Berni, R. J.: see Benerito, R. R.
Berry, J. P.: Fracture processes in polymeric materials. IV. Dependence of the fracture surface energy on temperature and molecular structure, 993
Bettelheim, F. A.: see DerSarKissian, V. M.
Beynon, K. I.: Monomers containing phosphorus. Part I. Copolymerization of phosphonates with *n*-lauryl methacrylate, 3343
——: Monomers containing phosphorus. Part II. Copolymerization of diallyl phenyl phosphine oxide with *n*-lauryl methacrylate, 3357
Billmeyer, F. W., Jr.: see De La Cuesta, M. O.
Binder, J. L.: The infrared spectra and structures of polyisoprenes, 37
——: The infrared spectra and structures of polybutadienes, 47
Bixler, H. J., Michaels, A. S., and Salame, M.: Gas transmission in irradiated polyethylene, 895
Bond, J., and Hobson, D. B.: The role of metal chelates in polymerization initiation. I. Chromous chelates, 2179
——, and ——: II. Cupric chelates, 2185
Boor, J. Jr., and Mitchell, J. C.: Kinetics of crystallization and a crystal-crystal transition in poly-1-butene, 59
Boryniec, A., and Łaszkiewicz, B.: Bulk copolymerization of methyl methacrylate with phenyldichlorophosphine, 1963
Bostick, E. E.: see Morton, M.
Bourne, M. C., Chichester, C. O., and Sterling, C.: Diffusion constants of a maltosaccharide series, 817

Bovey, F. A.: Polymer NMR spectroscopy. VIII. The influence of the pH of the polymerization medium on the stereochemical configuration of polymethacrylic acid, 843
——, and Tiers, G. V. D.: Polymer NMR spectroscopy. IX. Polyacrylamide and polymethacrylamide in aqueous solution, 849
——: see Tiers, G. V. D.
Bower, G. M., and Frost, L. W.: Aromatic polyamides, 3135
Bradley, L. J.: see Morton, M.
Bristow, G. M.: The mastication of elastomers. Part III. The solution properties of masticated synthetic *cis*-polyisoprene, 2261
Brockway, C. E., and Moser, K. B.: Grafting of poly(methyl methacrylate) to granular corn starch, 1025
Brodoway, N.: see Wich, G. S.
Brower, F. M., and McCormick, H. W.: Narrow molecular weight distribution polystyrenes, 1749
Brown, D. W.: see Florin, R. E.
Bruss, D. B., and Stross, F. H.: A comparison of dynamic methods for osmotic pressure measurements, 2439
——: see Burge, D. E.
Buckley, D. J.: see Berger, M.
Bueche, A. M.: Huggins, C. M.
Buell, B. O.: see Arnett, R. L.
Burge, D. E., and Bruss, D. B.: Preparation and properties of some poly-α-methylstyrenes, 1927
Burgis, B. G.: see Benerito, R. R.
Burke, W. J., and Higginbottom, H. P.: Nitrosation of linear phenol-formaldehyde polymers, 3617
Burkhart, R. D., and Zutty, N. L.: Copolymerization studies. III. Reactivity ratios of model ethylene copolymerizations and their use in *Q-e* calculations, 1137
Burnett, G. M.: see Anderson, D. B.
Cahill, J. W.: see Loconti, J. D.
Campbell, T. W., and McDonald, R. N.: Polymeric derivatives of 3,3-bis(aminomethyl)-oxetane and exoxysuccinyl chloride, 2525
Cappas, C.: see Pohl, H. A.
Carazzolo, G. A.: Structure of the normal crystal form of polyoxymethylene, 1573
——, and Mammi, M.: Crystal structure of a new form of polyoxymethylene, 965
Carmichael, J. B., and Kinsinger, J. B.: Unrestricted rotation in polymers with discrete rotational states, 2459
Carpenter, W. G.: see Pellon, J.
Cassidy, H. G.: see Kamogawa, H.
Chamberlain, N. F.: see Edwards, W. R.
Chappell, S. E., Sauer, J. A., and Woodward, A. E.: Effects of high energy irradiation on polypropylene, 2805
Charles, R. G.: Metal chelate polymers derived from tetraacetylethane, 267
Chen, C. S. H.: Polymerization induced by ionizing radiation at low temperatures. III. The effect of electron density on the polymerization of substituted styrenes, 1293
Chichester, C. O.: see Bourne, M. C.
Chiang, R.: Crystallization and melting behavior of polyacrylonitrile, 2765
Chien, J. C. W.: Kinetics of propylene polymerization catalyzed by α-titanium trichloride–diethylaluminum chloride, 425
——: Olefin polymerization and polyolefin molecular weight distribution, 1839
Chirkov, N. M.: see Firsor, A. P.
Chiv, T. T.: see Maron, S. H.
Chowdhury, F. H., and Neale, S. M.: Acid behavior of carboxylic derivatives of cellulose. Part I. Carboxymethylcellulose, 2881
——, and ——: Part II. Oxycellulose, 2893
Chu, B.: see Debye, P.
Chu, N. S., and Price, C. C.: Polyethers. XI. Polymerization of *dl*-propylene oxide with optically active catalyst systems, 1105
Clarke, R. G.: see Morton, M.
Clendinning, R. A.: see Garty, K. T.
Coleman, B. D., and Fox, T. G: General theory of stationary random sequences with applications to the tacticity of polymers, 3183
Contois, L. E.: see Dunham, K. R.
Cooper, W., Johnston, F. R., and Vaughan G.: Stereoregularity in polyvinyl alcohols and esters, 1509
——, and Smith, R. K.: Melting transitions in diene polymers, 159
Cotton, G. R., and Sacks, W.: Oxidative crosslinking of polyethylene by ultraviolet light, 1345
Crawford, G. H., Rice, D. E., and Landrum, B. F.: Nitroso fluorocarbon elastomers. Polymerization mechanism, 565
Crespi, G: see Natti, G.
Crompton, T. R., and Reid, V. M.: Unsaturation in high impact polystyrene analytical studies, 347
Czarnecki, S., and Kryszewski, M.: Some applications of afterglow studies of luminescent compounds in solid polymers, 3067
Dalton, F. L.: see Acres, G. J. K.
Dammont, F. R.: see Salovey, R.
Daniel, J.-C.: see Guyot, A.
Davis, B.: see Wiley, R. H.
Davis, P., and Tabor, B. E.: Kinetic study of the crosslinking of gelatin by formaldehyde and glyoxal, 799
Debye, P., Chu, B., and Kaufmann, H.: Molecular configuration of polystyrene in benzene, 2387
——, Chu, B., and Woermann, D.: Viscosity of critical mixtures, 249
——, Woermann, D., and Chu, B.: Critical opalescence of polystyrene in ethylcyclohexane, 255
De La Cuesta, M. O., and Billmeyer, F. W., Jr.: The molecular structure of

polyethylene. XII. Intrinsic viscosities of polyethylene solutions, 1721
DerSarKissian, V. M., and Bettelheim, F. A.: Strain birefringence of sodium hyaluronate films, 725
De Santis, P., Giglio, E., Liquori, A. M., and Ripamonti, A.: Stability of helical conformations of simple linear polymers, 1383
De Winter, W., Marvel, C. S., and Abdul-Karim, A.: Polydiacrylylmethane, 3261
Di Benedetto, A. T.: Molecular properties of amorphous high polymers. I. A cell theory for amorphous high polymers, 3459
——: II. An interpretation of gaseous diffusion through polymers, 3477
Dicyan, A. B.: see Wunderlich, B.
DiMarzio, E. A., and Gibbs, J. H.: Molecular interpretation of glass temperature depression by plasticizers, 1417
Dipietro, J.: see Zambelli, A.
Dole, M.: see Inokuti, M.
Douglass, D. C.: see McCall, D. W.
Drougas, J., Timnick, A., and Guile, R. L.: High frequency titrations of polydicarboxylic acid copolymers: polyitaconic acid-*Co*-styrene and polymaleic acid-*Co*-styrene, 1609
Dunham, K. R., VanDenBerghe, J., Faber, J. W. H., and Contois, L. E.: Effect of side-chain structure on poly-*d*-olefin properties, 751
Edwards, W. R., and Chamberlain, N. F.: Carbonium ion rearrangement in the cationic polymerization of branched alpha olefins, 2299
Ehrlich, P., and Kurpen, J. J.: Phase equilibria of polymer–solvent systems at high pressures near their critical loci: polyethylene with *n*-alkanes, 3217
Eirich, F. R: see Sabia, R.
Elden, H. R., and Feldman, M.: A kinetic analysis of swelling of rat tail tendon, 23
Ellis, K. C., and Warwicker, J. O.: Crystallite orientation in regenerated cellulose filaments. I. Measurement of orientation by x-ray methods, 1185
Enda, Y.: see Kishimoto, A.
Endrey, A. L.: see Rosen, I.
Faber, J. W. H.: see Dunham, K. R.
Fabry, T. L.: see Hansen, O. C., Jr.
Feitelson, J.: see Josephs, R.
Feldman, M.: see Elden, H. R.
Fetters, L. J.: see Morton, M.
Filipovich, G.: Nuclear magnetic resonance in solid polypyrrolidone, 2279
Firsor, A. P., Kashprov, B. N., Kissin, Yu. V., and Chirkov, N. M.: The dependence of the stereospecific action of the complex catalyst α-$TiCl_3$–$Me(C_2H_5)_n$ during the polymerization of α-olefins on the metal in the metalloorganic compound (article in *J. Polymer Sci.*, **62**, S104–S105, 1962), 1472
Fischer, H., Hellwege, K. H., and Neudorfl, P.: Elektronenspinresonanz-Utersuchungen an Peroxydradikalen in bestrahltem Polyproplen, 2109
Flisi, U.: see Natti, G.
Flood, J. F.: see Wunderlich, B.
Florin, R. E., and Wall, L. A.: Electron spin resonance of gamma-irradiated cellulose, 1163
——, Wall, L. A., and Brown, D. W.: Electron spin resonance spectra of aged, γ-irradiated polystyrenes, 1521
Folt, V. L.: see Krimm, S.
Fort, R. J.: see Moore, W. R.
Foster, J. F.: see Rao, V. S. R.
Fox, R. B., Isaacs, L. G., and Stokes, S.: Photolytic degradation of poly(methyl methacrylate), 1079
Fox, T. G.: see Coleman, B. D.
Frey, D. A., Hasegawa, M., and Marvel, C. S.: Preparation and aromatization of poly-1,3-cyclohexadiene. II, 2057
Frost, L. W.: see Bower, G. M.
Fukui, K.: see Hayashi, K.
Fukutani, H.: see Iwasaki, K.
——: see Nakano, S.
Gager, W. B.: see Ungar, I. S.
Garty, K. T., Gibb, T. B., Jr., and Clendinning, R. A.: Cocatalysts for the linear polymerization of epoxides by dibutylzinc, 85
Gatti, G.: see Zambelli, A.
Gautron, R.: see Wippler, C.
Gershman, N. E.: see Winslow, E. C.
Gibb, T. B., Jr.: see Garty, K. T.
Gibbs, J. H.: see DiMarzio, E. A.
Gibbs, W. E.: see Morton, M.
Giglio, E.: see De Santis, P.
Gill, S. J.: see Toggenburger, R.
Glauz, R. D.: Transient analysis of a vibrating reed, 1693
Gogos, C. G.: see Pohl, H. A.
Golden, J. H., and Hazell, E. A.: Degradation of a polycarbonate by ionizing radiation, 1671
Goodman, M.: see Abe, A.
Gowan, A. C.: see Anderson, D. B.
Greenley, R. Z.: see Reichel, B.
Greyson, J., and Levi, A. A.: Calorimetric measurements of the heat of sorption of water vapor on dry swollen cellulose, 3333
Guha, T., and Palit, S. R.: Study of the rate of heterogeneous polymerization of methyl acrylate in aqueous solution, 877
Guile, R. L.: see Drougas, J.
Guillet, J. E.: Long-chain branching frequency in polyethylene, 2869
Gurnee, E. F.: see Rudd, J. F.
Gutowksy, H. S.: see Kusumoto, H.
Guyot, A., and Daniel, J.-C.: Etude de la polymerization des oléfines catalysée par les oxydes métalliques. I. Méthodes expérimentales d'étude cinétique; résultats preliminaires sur la polymérisation du propylène par le système catalytique Phillips, 2989
Haas, H. C., Husek, H., and Taylor, L. D.: On the ultraviolet absorption spectrum of polyvinyl alcohol, 1215
Haas, T. W.: see Sharma, M. G.

Hall, J. L.: see Morton, M.
Hansen, O. C., Jr., Fabry, T. L., Marker, L., and Sweeting, O. J.: Apparatus for measuring the dynamic tensile modulus of thin polymeric films, 1585
——, ——, ——, and ——: (article in *J. Polymer Sci.*, **A1**, 1585–1600, 1963), 3668
Hara, K.: see Tabata, Y.
Harrod, J. F.: Hydrogen bonding in amine-epoxide adducts, 385
Hartley, D. B.: see Tobolsky, A. V.
Hasegawa, M.: see Frey, D. A.
Havlik, A. J., Moacanin, J., and Otterness, I.: Ebulliometric and endgroup molecular weights of polyoxypropylene and polyoxyethylene glycols, 2213
Hawkins, W. L., and Sautter, Mrs. H.: Synergistic antioxidant combinations. Mechanism of stabilization with organosulfur compounds, 3499
——, and Worthington, Mrs. M. A.: Synergistic antioxidant combinations. Carbon black substitutes, 3489
Hayashi, K., Yonezawa, T., Okamura, S., and Fukui, K.: Molecular orbital theory of reactivity in radical polymerization. Part III, 1405
Hazell, E. A.: see Golden, J. H.
Heller, J., Tieszen, D. O., and Parkinson, D. B.: Polymerization of *N*-vinylcarbazole with Ziegler-type catalyst systems, 125
Hellwege, K. H.: see Fischer, H.
Heritage, K. J., Mann, J., and Roldan-Gonzalez, L.: Crystallinity and the structure of celluloses, 671
Hermans, J. J.: see Yamada, S.
Hewett, W. A., and Weir, F. E.: Dynamic properties of homo- and copolymers of 4-methyl-1-pentene, 1239
Higginbottom, H. P.: see Burke, W. J.
Hobson, D. B.: see Bond, J.
Hoeve, C. A. J., and O'Brien, M. K.: Specific diluent effects on polymer chain dimensions, 1947
Horrocks, R. H., and Winslow, E. C.: Oxine–formaldehyde polymers and their metallic chelates, 3655
Howard, G. J.: Turbidimetric titration of nylon 66, 2667
Hsiao, C. C., and Wu, T. S.: Orientation and strength of branched polymer systems, 1789
Hsu, B. S.: see Meredith, R.
Huang, R. Y.-M., Immergut, B., Immergut, E. H., and Rapson, W. H.: Grafting vinyl polymers onto cellulose by high energy radiation. I. High energy radiation-induced graft copolymerization of styrene onto cellulose, 1257
Huff, T., and Perry, E.: Reaction of polymeric radicals with organometallic compounds, 1553
Huggins, C. M., St. Pierre, L. E., and Bueche, A. M.: Further NMR studies of polydimethylsiloxanes: effects of radiation-induced crosslinking, 2731
Huntsberger, J. R.: The locus of adhesive failure, 1339
——: Adhesion. II. Relationships between viscoelasticity, interfacial equilibrium, and the temperature dependence of adhesion, 2241
Husek, H.: see Haas, H. C.
Iimura, K.: see Takeda, M.
Ikeda, S., Yamamoto, A., and Tanaka, H.: Stereoregulated polydideuteroethylene I. Polymers of *trans*-1,2-dideuteroethylene and *cis*-1,2-dideuteroethylene by a Ziegler catalyst, 2925
Immergut, B.: see Huang, R. Y.-M.
Immergut, E. H.: see Huang, R. Y.-M.
Inagaki, H., Kawai, S., and Nakazawa, A.: Application of the Archibald ultracentrifugal method for the study of dilute polymer solutions. II. Examination of two solution systems near the Flory temperature, 3303
Inokuti, M., and Dole, M.: Interpretation of the intrinsic viscosity of polymers undergoing simultaneous degradation and crosslinking, 3289
Inoue, M.: Nucleating effect on the kinetics of crystallization and the spherulites of nylon 6, 2013
——: Studies on crystallization of high polymers by differential thermal analysis, 2697
——: Properties of melt-blends of crystalline high polymers. Fusion and crystallization behaviors, 3427
Isaacs, L. G.: see Fox, R. B.
Iwasaki, K., Fukutani, H., and Nakano, S.: Polymerization of vinyl ethers with magnesium compounds. I. Catalytic reactivity of magnesium halides, 1937
——, Fukutani, H., Tsuchida, Y., and Nakano, S.: Polymerization of vinyl ether with magnesium compounds. II. Catalytic reactivity of magnesium compounds other than halides, 2371
——: see Nakano, S.
Iwasaki, M.: On the helical structure of polytetrafluoroethylene, 1099
Izumi, Z., Kiuchi, H., and Watanabe, M.: Copolymerization of acrylonitrile and *p*-sodium styrene sulfonate, 705
Jager, P., and Waight, E. S.: Solid state polymerization of methacrylamide and *N*-arylmethacrylamides, 1909
Jackson, J. F.: Crystallinity in ethylene–propylene copolymers, 2119
Jacobson, A. L.: The temperature dependence of magnesium chloride interaction with polyacrylic acid, 1955
——: see Redlich, O.
Johnson, D. R.: see Starkweather, H. W., Jr.
Johnston, F. R.: see Cooper, W.
Josephs, R., and Feitelson, J.: Interactions of polyelectrolytes. A turbidimetric method for the estimation of ionized polymers, 3385
Kalpagam, V., and Rao, M. R.: Effect of polar and nonpolar solvents on the

viscosity and the molecular weight of polymer solutions, 233
——, and ——: Depolarization measurements of polymer solutions in high dilutions. Part I, 517
——, and ——: Part II, 921
Kamei, T.-I.: see Tadokoro, H.
Kamogawa, H., and Cassidy, H. G.: Electron exchange polymers. XIX. Copolymerization behavior of vinylhydroquinone dibenzoate, 1971
Kaneko, M.: see Krigbaum, W. R.
Kashiwagi, M.: Radiation damage in oriented polyamides, 189
Kashprov, B. N.: see Firsor, A. P.
Katchalsky, A., and Alexandrowicz, Z.: On the addivity of osmotic properties of polyelectrolyte-salt solutions, 2093
——: see Alexandrowicz, Z.
Katz, D.: Polymerization and copolymerization of 1- and 9-vinylanthracenes and 9-vinylphenanthrene, 1635
——: see Tobolsky, A. V.
Kaufman, H.: see Debye, P.
Kawai, S.: see Inagaki, H.
Kazda, A.: see Zlámal, Z.
Ke, B.: Differential analysis of high polymers. VI. Comments on some material and experimental factors, 1453
Keller, A.: see Bassett, D. C.
Kende, I.: see Tüdös, F.
Kennedy, J. P., Kirshenbaum, I., Thomas, R. M., and Murray, D. C.: Fundamental studies on cationic polymerization. II. Mechanism and theory of inversion temperature, 331
——: see Kirshenbaum, I.
Ketley, A. D., and Moyer, J. D.: Competing side reactions in the polymerization of α-olefins by Ziegler-Natta catalysts, 2467
Kinsinger, J. B.: see Carmichael, J. B.
Kircher, J. F.: see Ungar, I. S.
Kirshenbaum, I., Kennedy, J. P., and Thomas, R. M.: Fundamental studies on cationic polymerization. III. Extension of mechanism studies to homogenous systems, 789
——: see Kennedy, J. P.
Kishimoto, A., and Enda, Y.: Diffusion of benzene in polyacrylates, 1799
Kissin, Yu. V.: see Firsor, A. P.
Kiuchi, H.: see Izumi, Z.
Kline, D. E.: Nuclear radiation effects in polytetrafluoroethylene, 1621
Klein, R.: see Odian, G.
Kobayashi, F., and Matsuya, K.: Copolymerization of α-pyrrolidone and ϵ-caprolactam, 111
Koral, J. N., and Smolin, E. M.: The preparation and polymerization of suberaldehyde, 2831
Kotera, A.: see Shima, M.
Kotliar, A. M.: Evaluation of molecular weight averages resulting from random crosslinking and chain scission processes for wide Schulz-Zimm distributions, 3175
Krigbaum, W. R., Kaneko, M., and Roig, A.: Dipole moments, stress relaxation, and birefringence of Viton fluoroelastomer, 1
——: see Roe, R.-J.
——: see Tokita, N.
Krimm, S., Folt, V. L., Shipman, J. J., and Berens, A. R.: Infrared spectra and assignments for polyvinyl chloride and deuterated analogs, 2621
Kryszewski, M., and Skorko, M.: Interactions of low molecular weight compounds with solid polymers, 2327
——: see Czarnecki, S.
Kugel, R. L.: see Allcock, H. R.
Kuhn, W., and Moser, P.: The dielectric relaxation time spectrum and the corresponding Cole-Cole diagram for methylcellulose in water, 151
Kulshrestha, V. K.: Studies on biocolloids and polyelectrolytes—the plant—gums viscosity of azrechtic acid, 1429
Kumins, C. A., and Roteman, J.: Effect of solid polymer interaction on transition temperature and diffusion coefficients, 527
——, Roteman, J., and Rolle, C. J.: Water sorption of titanium dioxide–poly(vinyl acetate–vinyl chloride) copolymer films, 541
Kuri, Z.: see Ueda, H.
Kurpen, J. J.: see Ehrlich, P.
Kusano, N.: see Sisido, K.
Kusumoto, H., and Gutowsky, H. S.: Proton magnetic resonance in natural rubber: comparison with dielectric measurements, 2905
Kuwahara, N.: On the polymer–solvent interaction in polymer solutions, 2395
Kwei, K.-P. S.: Graft copolymers of polyacrylic acid with desoxyribonucleic acid (DNA), 2309
Kwei, T. K.: Swelling of highly crosslinked network structure, 2977
Kwolek, S. L.: see Morgan, P. W.
Lakshminarayanaiah, N.: Activity coefficients of small ions in ion-exchange resins, 139
Landrum, B. F.: See Crawford, G. H.
Lang, J. L., Pavelich, W. A., and Clarey, H. D.: Homopolymerization of maleic anhydride. I. Preparation of the polymer, 1123
Lapporte, S. J.: see Bacskai, R.
Laszkiewicz, B.: see Boryniec, A.
Leininger, R. I.: see Ungar, I. S.
Levi, A. A.: see Greyson, J.
Levinson, G. S.: Molecular orbital calculation of monomer reactivity ratios (article in *J. Polymer Sci.*, **62**, 43–54, 1962), 1088
Lewin, M.: see Schmorak, J.
Liang, C. Y.: see Bassett, K. H.
Limbert, F. J., and Baer, E.: Kinetics of nucleation and growth of spherulites in homopolymers, 3317
Liquori, A. M.: see De Santis, P.
Litt, M.: Poly(4-methyl pentene): x-ray measurement of crystalline density and

observation of a structural anomaly, 2219
Livigni, R. A.: see Morton, M.
Lloyd, W. G.: The influence of transition metal salts in polyglycol autoxidations, 2551
Loconti, J. D., and Cahill, J. W.: Zone-refining fractionation of polymers, 3163
Loy, B. R.: Electron spin resonance of polypropylene, 2251
McCain, G. H.: see Rosen, I.
McCall, D. W., and Anderson, E. W.: Molecular motion in polyethylene. III, 1175
——, Douglass, D. C., and Anderson, E. W.: Self-diffusion and nuclear relaxation in polyisobutylene, 1709
McCormick, H. W.: Molecular weight distribution of linear polyethylene by sedimentation velocity analysis, 103
——: see Brower, F. M.
McDonald, R. N.: see Campbell, T. W.
McFadden, W. H.: see Redlich, O.
McIntosh, C. R., Stephens, W. D., and Taylor, C. O.: Changes in the stereospecificity of a Ziegler catalyst used in the polymerization of butadiene, 2003
McIntyre, D. B.: see Morton, M.
McKelvey, J. B.: see Benerito, R. R.
Mackie, J. S.: see Rudin, A.
Mammi, M.: see Carazzolo, G.
Manabe, Y.: see Yoshino, T.
Manley, R. St. J.: Growth and morphology of single crystals of cellulose triacetate, 1875
——: Hydrolysis of cellulose triacetate crystals, 1893
Mann, J.: see Heritage, K. J.
Marchese, B.: see Orsini, P. O.
Marchessault, R. H.: see Bassett, K. H.
Mark, H. F., and Ogata, N.: Copolymerization of aldehydes, 3439
Marker, L.: see Hansen, O. C., Jr.
Maron, S. H., and Chiu, T. T.: Study of entanglement of polymers in solution by viscosity measurements. II. Polymethyl methacrylate in various solvents, 2651
Marriott, J. A.: see Winslow, E. C.
Marvel, C. S.: see De Winter, W.
——: see Frey, D. A.
——: see Reichel, B.
——: see Shono, T.
——: see Vogel, H.
Matsuda, M.: see Tokura, N.
Matsuya, K.: see Kobayashi, F.
Mattison, L. E., Phipps, M. S., Alfred, L., Taylor, S., Thompson, J., and Saul, B.: Coordination compounds of *p*-nitrobenzeneazotyrosine, 3449
Mauer, J. J.: Particle size distribution in polymer solutions, 577
Mayberry, G. L.: see Wiley, R. H.
Mendelson, R. A.: Elution fractionation of crystalline polypropylene, 2361
Mercier, J., and Smets, G.: Copolymerization. I. Structure of polyacrylic anhydride, 1491
Meredith, R., and Hsu, B. S.: Dynamic bending properties of fibers: effect of temperature on nylon 66, terylene, orlon, and viscose rayon (article in *J. Polymer Sci.*, **61**, 271–292, 1962), 2240
Merrill, E. W., Mickley, H. S., Ram, A., and Stockmayer, W. H.: The second Newtonian viscosity number, 1201
Michaels, A. S.: see Bixler, H. J.
Mickley, H. S.: see Merrill, E. W.
Middleman, S.: A theory for surface elevation in the Weissenberg effect, 261
Milkovich, R.: see Morton, M.
Miller, A. A.: The reference point for liquid relaxation processes. I. Melt viscosity of polystyrene, 1857
——: II. Melt viscosity of polyisobutylene, 1865
Miller, S. M., Spindler, M. W., and Vale, R. L.: Use of dimaleimides as accelerators for the radiation-induced vulcanization of hydrocarbon polymers. Part II. Synthetic rubbers and saturated polymers, 2537
Mitchell, J. C.: see Boor, J., Jr.
Mitsuhashi, S: see Bassett, D. C.
Miyamichi, K.: see Overberger, C. G.
Moacanin, J.: see Havlik, A. J.
Moore, W. R., and Fort, R. J.: Viscosities of dilute solutions of polymethyl methacrylate, 929
——, and Shuttleworth, R.: Thermodynamic properties of solutions of cellulose acetate and cellulose nitrate, 733
——, and Shuttleworth, R.: Thermodynamic properties of solutions of cellulose triacetate, 1985
Mora, P. T.: see Wood, J. W.
Morgan, P. W., and Kwolek, S. L.: Interfacial polycondensation. XIII. Viscosity–molecular weight relationship and some molecular characteristics of 6–10 polyamide, 1147
Morris, R. J., Jr., and Persinger, H. E.: Molecular weight distribution in polypropylene glycol 2025, 1041
Morsi, M. K. S., and Sterling, C.: Crystallization in starch: the role of ions in the lyotropic series, 3547
Morton, M., Bostick, E. E., and Clarke, R. G.: Homogeneous anionic polymerization. III. Molecular weight of polyisoprene initiated by butyllithium, 475
——, Bostick, E. E., Livigni, R. A., and Fetters, L. J.: Homogeneous anionic polymerization. IV. Kinetics of butadiene and isoprene polymerization with butyllithium, 1735
——, and Gibbs, W. E.: The emulsion polymerization of 2,3-dimethylbutadiene-1,3, 2679
——, Milkovich, R., McIntyre, D. B., and Bradley, L. J.: Homogeneous anionic polymerization. I. Molecular weights of polystyrene initiated by sodium naphthalene, 443
——, and Piirma, I.: The branching reaction. III. Polymeric transfer con-

stants of vinyl acetate with styrene and methyl methacrylate, 3043
——, Rembaum, A. A., and Hall, J. L.: Homogeneous anionic polymerization. II. Molecular weight of polystyrene initiated by lithium alkyls, 461
Moser, P.: see Kuhn, W.
Mosher, H. P.: see Parks, G. S.
Moyer, J. D.: see Ketley, A. D.
Murahashi, S.: see Tadokoro, H.
Murakami, K.: see Sobue, H.
Murray, D. C.: see Kennedy, J. P.
Nakazawa, A.: see Inagaki, H.
Nakano, S., Iwasaki, K., and Fukutani, H.: Stereospecific polymerization of vinyl alkyl ethers, 3277
——: see Iwasaki, K.
Natta, G., Crespi, G., and Flisi, U.: Thermodynamic interpretations of the elastic properties of rubber obtained from ethylene–propylene copolymers, 3569
Neale, S. M.: see Chowdhury, F. H.
Neely, W. B.: Solution properties of polysaccharides. IV. Molecular weight and aggregate formation in methylcellulose solutions, 311
Neudorfl, P.: see Fischer, H.
Nielsen, L. E., and Stockton, F. D.: Theory of modulus of crystalline polymers, 1995
Nitta, I.: see Shioji, Y.
North, A. M., and Reed, G. A.: Diffusion-controlled polymerization of some alkyl methacrylates, 1311
Notley, N. T.: Molecular configuration of branched macromolecules, 227
Noyori, R.: see Sisido, K.
Nozaki, H.: see Sisido, K.
Nozaki, Y.: see Sisido, K.
Nozakura, S.: see Overberger, C. G.
O'Brien, M. K.: see Hoeve, C. A. J.
Odian, G., Sobel, M., Rossi, Klein, R., and Acker, T.: Radiation-induced graft polymerization of styrene to nylon, 639
Ogata, N.: Resonance effect of amide group on the polymerizability of lactam derivatives. III. Polymerization of many-membered lactams ring, 3151
——: see Mark, H. F.
Ogawa, Y.: see Tokura, N.
Ohnishi, S.-I., Sugimoto, S.-I., and Nitta, I: Electron spin resonance study of radiation oxidation of polymers. IIIA. Results for polyethylene and some general remarks, 605
——, ——, and ——: IIIB. Polypropylene and poly(vinyl chloride), 625
——: see Shioji, Y.
Okamura, S.: see Hayashi, K.
Oosawa, F.: Thermodynamic properties of rodlike polyelectrolyte solutions in the presence of salts, 1501
Orsini, P. O., Marchese, B., and Mazzarella, L.: Morphology of polyethylene single crystals, 1901
Otterness, I.: see Havlik, A. J.
Ottolenghi, A., Barzakay, S., and Zilkha, A.: Anionic polymerization of acrylonitrile by various catalysts, 3643
——, and Zilkha, A.: Termination of the anionic polymerization of acrylonitrile at low catalyst concentrations, 687
——: see Zilkha, A.
Overberger, C. G., and Miyamichi, K.: Copolymerization of styrene and aliphatic olefins, 2021
——, and Nozakura, S.: Copolymerization of styrene and styrene derivative with an aluminum alkyl-titanium trichloride catalyst, 1439
Owens, F. H., and Zimmerman, F. E.: Photochlorination of poly(methyl methacrylate) in aqueous suspension, 2711
Packter, A.: Conductivity and viscosity measurements on sodium polyacrylates of different molecular weights, 3021
Palit, S. R.: see Guha, T.
Palmer, K. J.: see Tomimatsu, Y.
Parkinson, D. B.: see Heller, J.
Parks, G. S., and Mosher, H. P.: Enthalpy and free energy changes in some simple polymerization processes, 1979
Patterson, D.: see Bataille, P.
Pellon, J.: Polyamides containing phosphorus. II. Structural effects on softening and glass transition temperatures, 3561
——, and Carpenter, W. G.: Polyamides containing phosphorus. I. Preparation and properties, 863
Persinger, H. E.: see Morris, R. J., Jr.
Perry, E.: see Huff, T.
Petree, M. C.: see Warfield, R. W
Phipps, M. S.: see Mattison, L. E.
Piirma, I.: see Morton, M.
Pohl, H. A., Gogos, C. G., and Cappas, C.: Resistivity studies on polymer semiconductors, 2207
Poland, D.: see Wunderlich, B.
Polowinski, S.: see Turska, E.
Price, C. C.: see Chu, N. S.
Prins, W.: see Yamada, S.
Ram, A.: see Merrill, E. W.
Rao, M. R.: see Kalpagam, V.
Rao, V. S. R., and Foster, J. F.: Depolarization of scattered light in solutions of linear and branched polysaccharides, 289
Rapson, W. H.: see Huang, R. Y.-M.
Redlich, O., Jacobson, A. L., and McFadden, W. H.: On the fractionation of polypropylene by coacervation, 393
Reed, G. A.: see North, A. M.
Reed, S. F.: see Baldwin, M. G.
Rehfeld, S. J.: see Wales, M.
Reich, L., and Stivala, S. S.: A general kinetic scheme for Ziegler-type polymerization, 203
Riechel, B., Marvel, C. S., and Greenley, R. Z.: Transannular polymerization of 1,5-cyclooctadiene, 2935
Reid, V. M.: see Crompton, T. R.
Rembaum, A. A.: see Morton, M.
Rice, D. E.: see Crawford, G. H.
Ripamonti, A.: see De Santis, P.
Roe, R.-J., and Krigbaum, W. R.: A thermodynamic study of Viton elastomer, 2049

Rogers, M. G.: see Barrer, R. M.
Roig, A.: see Krigbaum, W. R.
Roldan-Gonzalez, L.: see Heritage, K. J.
Rolle, C. J.: see Kumins, C. A.
Rosen, B.: Some mechanical aspects of the swelling and shrinking of polymeric solids. Part I. External and internal restraints (article in *J. Polymer Sci.*, **58**, 821–837, 1962), 1472
Rosen, I., McCain, G. H., Endrey, A. L., and Sturm, C. L.: Syndiotactic polyvinyl formate and derived polyvinyl alcohol, 951
Rosenzweig, W.: see Salovey, R.
Rossi, A.: see Odian, G.
Roteman, J.: see Kumins, C. A.
Roth, P. I.: see Shultz, A. R.
Rubin, I. D.: Isomorphism in polycarbonates. Copolymers of hydroquinone and substituted hydroquinones, 1645
Rudd, J. F., and Gurnee, E. F.: The effect of molecular weight distribution on the optical properties of polystyrene in the transition region, 2857
Rudin, A., and Mackie, J. S.: Some anomalous brittleness temperatures of polyethylene, 2075
Rybnikar, F.: Mechanism of secondary crystallization in polymers, 2031
Saba, R. G., Sauer, J. A., and Woodward, A. E.: Dynamic shear behavior of poly(γ-benzyl L-glutamate), poly(D,L-propylene oxide), and poly(ethyl vinyl ether), 1483
Sabia, R., and Eirich, F. R.: Viscoelastic behavior of plasticized polyvinyl chloride at large deformations. I. Stress relaxation, 2497
——, and ——: II. Creep, 2511
Sacks, W.: see Cotten, G. R.
St. Pierre, L. E.: see Huggins, C. M.
Sakurada, Y.: Polymerization of α-methylstyrene with $Al(C_2H_5)_3$–$TiCl_4$ catalyst, 2407
Salame, M.: see Bixler, H. J.
Salovey, R., and Dammont, F. R.: Irradiation of polyethylene oxide and polypropylene, 2155
——, and Rosenzweig, W.: Radiation dosimetry in polyethylene with silicon solar cells, 2145
Saltman, W. M.: Separated aluminum alkyl-titanium tetrachloride catalysts for isoprene polymerization, 373
Sauer, J. A.: see Chappell, S. E.
——: see Saba, R. G.
Saul, B.: see Mattison, L. E.
Sautter, Mrs. H.: see Hawkins, W. L.
Scanlan, J., and Thomas, D. K.: Cross-linking of natural rubber by dicumyl peroxide in the presence of oxidation inhibitors, 1015
Schmidt, P. G.: Polyethylene terephthalate structural studies, 1271
——: Polypropylene structure, 2317
Schmorak, J., and Lewin, M.: The chemical and physiochemical properties of wheat starch mildly oxidized with alkaline sodium hypochlorite, 2601
Schonhorn, H.: Generalized approach to adhesion via the interfacial deposition of amphiphatic molecules. I. Adhesion of polyethylene to aluminum, 2343
——: II. Adhesion of polyethylene to aluminum, 3523
Sekiguchi, H.: Mécanisme réactionnel de la polymérisation alcaline des lactames, 1627
Sharma, M. G., and Haas, T. W.: Some viscoelastic studies on Penton, 3079
Shashoua, V. E.: Static electricity in polymers. II. Chemical structure and antistatic behavior, 169
Shibano, H.: see Tabata, Y.
Shida, S.: see Ueda, H.
Shima, M., and Kotera, A.: Copolymerization characteristics of methyl acrylate and methyl methacrylate. I. Study of copolymerization kinetics by a deuterium tracer method, 1115
Shio i, Y., Ohnishi, S.-I., and Nitta, I.: ESR study of irradiated acrylic acid and reaction of the produced radical, 3373
Shipman, J. J., and Golub, M. A.: Infrared study of the reaction of polyisoprene and polybutadiene with sulfur by the use of deuterated polymers (article in *J. Polymer Sci.*, **58**, 1063–1082, 1962), 832
——: see Krimm, S.
Shono, T., and Marvel, C. S.: Polymers derived from unsaturated esters of hydronopoxyalkanols, 1543
——, and ——: Preparation and polymerization of vinyl 12-hydroxystearate, 2067
Shultz, A. R., Roth, P. I., and Berge, J. M.: Radiation degradation of polymethacrylates. Dose rate and medium effects, 1651
Shuttleworth, R.: see Moore, W. R.
Silverman, M. S.: see Soulen, J. R.
Simha, R.: see Utracki, L.
Simosaka, M.: see Sisido, K.
Sisido, K., Kusano, N., Noyori, R., Nozaki, Y., Simosaka, M., and Nozaki, H.: Polycondensation of xylylene dibromides by transition metals in water suspension, 2101
Skorko, M.: see Kryszewski, M.
Sliemers, F. A.: see Ungar, I. S.
Smets, G., and Van Humbeeck, W.: Reaction kinetics and tacticity of macromolecules. II. Acrylic acid copolymers, 1227
Smith, M. E.: see Arnett, R. L.
Smith, R. K.: see Cooper, W.
Smith, T. L.: Ultimate tensile properties of elastomers: I. Characterization by a time and temperature independent failure envelope, 3597
Smith, W. E., and Zelmer, R. G.: An interpretation of ethylene polymerization with alkyl-promoted transition-metal catalysts, 2587
Smolin, E. M.: see Koral, J. N.

Sobel, M.: see Odian, G.
Sobue, H., and Murakami, K.: Maximum relaxation time on polymers in the vicinity of critical molecular weight, 2039
——: see Tabata, Y.
Soulen, J. R., Silverman, M. S.: Polymerization of phosphonitrilic chloride trimer at high pressures and temperatures, 823
Spindler, M. W.: see Miller, S. M.
Starkweather, H. W., Jr., Whitney, J. F., and Johnson, D. R.: Crystalline order in nylon 66, 715
Stephens, W. D.: see McIntosh, C. R.
Stephenson, C. V., and Wilcox, W. S.: Ultraviolet irradiation of plastics. IV. Further studies of environmental effects on films and fibers, 2741
Stein, R.: see Van Leemput, R.
Steingiser, S.: see Baumann, G. F.
Sterling, C.: see Bourne, M. C.
——: see Morsi, M. K. S.
Stivala, S. S.: see Reich, L.
Stockmayer, W. H.: see Merrill, E. W.
Stockton, F. D.: see Nielsen, L. E.
Stokes, S.: see Fox, R. B.
Stross, F. H.: see Bruss, D. B.
Sturm, C. L.: see Rosen, I.
Sugai, S., and Woodward, A. E.: Counterion binding in partially neutralized copolymers of crotonic acid and vinyl alcohol, 2127
Sullivan, P.: see Wunderlich, B.
Sweeting, O. J.: see Hansen, O. C., Jr.
Symons, N. K. J.: Growth of single crystals of polytetrafluoroethylene from the melt, 2843
Tabata, Y., Shibano, H., Sobue, H., and Hara, K.: Radiation-induced cationic polymerization of ethylene, 1049
Tabor, B. E.: see Davis, P.
Tadokoro, H., Murahashi, S., Yamadera, R., and Kamei, T.-I.: Infrared absorption spectra of polyacrylonitrile and deuterated polyacrylonitriles, 3029
Takahashi, M.: see Tobolsky, A. V.
Takeda, M., and Iimura, K.: Studies on the configuration and conformation of vinyl-type polymers. II. Temperature dependence of the infrared spectrum of polyvinyl chloride in solution and stereoregularity (article in *J. Polymer Sci.*, **57**, 383–393, 1962), 1472
Takserman-Kroser, R.: Behavior of polymer solutions in the velocity field with parallel gradient. III. Molecular orientation in dilute solutions containing flexible chain macromolecules, 2477
——: IV. Viscosity of dilute solutions containing flexible chain macromolecules, 2487
——, and Ziabicki, A.: Behavior of polymer solutions in a velocity field with parallel gradient. I. Orientation of rigid elliposids in a dilute solution, 491
——, and ——: II. Viscosity of dilute solutions containing rigid ellipsoids, 507
Tanaka, H.: see Ikeda, S.
Tanner, D. D.: see Walling, C.
Taylor, C. O.: see McIntosh, C. R.
Taylor, L. D.: see Haas, H. C.
Taylor, S.: see Mattison, L. E.
Taylor, W. D., and Woodward, A. E.: Preparation and properties of copolymers of maleic anhydride and 2,2-dimethylaminoethyl methacrylate, 1473
Thomas, D. K.: see Scanlan, J.
Thomas, R. M.: see Kennedy, J. P.
——: see Kirshenbaum, I.
Thompson, J.: see Mattison, L. E.
Ticknor, L. B.: A thermodynamic method for the comparison of the order distribution in cellulose and other polymers, 243
Tiers, G. V. D., and Bovey, F. A.: Polymer NMR spectroscopy. VII. The stereochemical configuration of polytrifluorochloroethylene, 833
——: see Bovey, F. A.
Tieszen, D. O.: see Heller, J.
Timnick, A.: see Drougas, J.
Tobolsky, A. V.: Probability matrices, chain dimensions and statistical thermodynamics for semicrystalline macromolecules, 301
——, and Hartley, D. B.: Radical-anion polymerization, 15
——, Katz, D., and Takahashi, M.: Rheology of polytetrafluoroethylene, 483
——, ——, and ——: Rheology of polytetrafluoroethylene (article in *J. Polymer Sci.*, **A1**, 483–489, 1963), 1472
Toggenburger, R., Beck, K., and Gill, S. J.: Theoretical calculations of stress relaxation in concentrated solutions, 1779
——, and Gill, S. J.: Anisotropic properties of strained viscoelastic fluids. III. Birefringence of polystyrene solutions, 1765
Tokita, N., and Krigbaum, W. R.: Calculation of the displacement distance for a three-choice cubic lattic chain, 1069
Tokura, N., Matsuda, M., and Ogawa, Y.: Polymerization in liquid sulfur dioxide. Part XIII. Polymerization of styrene derivatives in liquid sulfur dioxide, 2965
Tomimatsu, Y., and Palmer, K. J.: Light-scattering studies on sugar beet arabans, 1005
Topchiev, A. V.: Some aspects of the production and study of semiconducting polymeric materials, 591
——, and Alaniya, V. P.: Synthesis of nitroolefins and an investigation of their ability to polymerize, 599
Tudos, F., Kende, I., and Azori, M.: Inhibition kinetics of the polymerization of styrene. II. Investigations on the effect of *s*-trinitrobenzene, 1353
——, ——, and ——: III. Investigations on the effect of substituted trinitrobenzenes, 1369
Turska, E., and Polowinski, S.: Examination of kinetics of graft copolymerization

on preirradiated polymethyl methacrylate, 2085
Tsuchida, Y.: see Iwasaki, K.
Ueda, H., Kuri, Z., and Shida, S.: Electron spin resonance studies of the reaction of gases with the radicals formed in irradiated polytetrafluoroethylene, 3537
Ungar, I. S., Kircher, J. F., Gager, W. B., Sliemers, F. A., and Leininger, R. I.: Radiolysis of the isomeric poly(butylmethacrylates), 277
Utracki, L., and Simha, R.: Corresponding state relations for the viscosity of moderately concentrated polymer solutions, 1089
Vale, R. L.: see Miller, S. M.
VanDenBerghe, J.: see Dunham, K. R.
Van Humbeeck, W.: see Smets, G.
Van Leemput, R. and Stein, R.: Experimental data on dilute polymer solutions. I. Hydrodynamic properties and statistical coil dimensions of poly(*n*-butyl methacrylate), 985
Vaughan, G.: see Cooper, W.
Vogel, H., and Marvel, C. S.: Polybenzimidazoles. II, 1531
Vogelsong, D. C.: Crystal structure studies on the polymorphic forms of nylons 6 and 8 and other even nylons, 1055
Waight, E. S.: see Jager, P.
Wales, M., and Rehfeld, S. J.: Molecular weight distribution by velocity ultracentrifugation (article in *J. Polymer Sci.*, **62**, 179–196, 1962), 3668
Wall, L. A.: see Florin, R. E.
Walling, C., and Tanner, D. D.: Organic reactions under high pressure. IX. The effect of pressure on the stereochemistry of methyl methacrylate polymerization, 2271
Walters, M. H.: Fibrous structure in stretched crystalline elastomers, 3091
Warfield, R. W., and Petree, M. C.: Thermodynamic properties of polymethyl methacrylate and methyl methacrylate, 1701
Warwicker, J. O.: The diffusion of chyrsophenine G into viscose sheet, 3105
——: see Ellis, K. C.
Watanabe, M.: see Izumi, Z.
Weir, F. E.: see Hewett, W. A.
Welch, F. T.: see Zutty, N. L.
Westerman, L.: The molecular weight distribution in polypropylene, 411
White, E. F. T., and Zissell, M. J.: Polymerization of acrylonitrile in dimethylsulfoxide, 2189
Whitney, J. F.: see Starkweather, H. W., Jr.
Wich, G. S., and Brodoway, N.: Relative reactivity ratios for two new 2-chloro-1,3-butadiene systems, 2163
Wilcox, W. S.: see Stephenson, C. V.
Wiley, R. H., and Davis, B.: Tracer techniques for the determination of monomer reactivity ratios. V. Monomer reactivity ratios for styrene–isoprene copolymerization, 2819
——, and Mayberry, G. L.: Tracer techniques for the determination of monomer reactivity ratios. IV. Copolymerization characteristics of some divinyl monomers, 217
Wilson, C. W., III: NMR study of molecular chain structure of polyvinylidine fluoride, 1305
Winslow, E. C., and Gershman, N. E.: Phthalocyanine-crosslinked polyvinylphthalic acid, 2383
——, and Marriott, J. A.: Effect of crystallization on the thermal stability of polyvinylphthalic acid and its methyl ester, 321
Winslow, E. C.: see Horrocks, R. H.
Wippler, C., and Gautron, R.: Étude de l'influence du tetrahydrofurane sur la radioreticulation du chlorure de polyvinyle, 943
Woermann, D.: see Debye, P.
Wood, J. W., and Mora, P. T.: Preparation and biological application of highly substituted cationic derivatives of polysaccharides, 3511
Woodward, A. E.: see Chappell, S. E.
——: see Saba, R. G.
——: see Sugai, S.
——: see Taylor, W. D.
Worthington, Mrs. M. A.: see Hawkins, W. L.
Wu, T. S.: see Hsiao, C. C.
Wunderlich, B.: The effect of pressure on the crystallization of polyethylene from dilute solution, 1245
——, and Poland, D.: Thermodynamics of crystalline linear high polymers. II. The influence of copolymer units on the thermodynamic properties of polyethylene, 357
——, Sullivan, P., Arakawa, T., Dicyan, A. B., and Flood, J. F.: Thermodynamics of crystalline linear high polymers. III. Thermal breakdown of the crystalline lattice of polyethylene, 3581
Yakashima, S.: Effect of ions on the dielectric dispersion of ovalbumin solution, 2791
Yamada, S., Prins, W., and Hermans, J. J.: Determination of number-average molecular weights by elastoosmometry, 2335
Yamadera, R.: see Tadokoro, H.
Yamamoto, A.: see Ikeda, S.
Yoda, N.: Syntheses of polyanhydrides. XII. Crystalline and high melting polyamidepolyanhydride of methylenebis(*p*-carboxyphenyl)amide, 1323
Yonezawa, T.: see Hayashi, K.
Yoshino, T., and Manabe, Y.: Photosensitivity of dry-heated polyacrylonitrile, 2135
Zambelli, A., Dipietro, J., and Gatti, G.: The nature of active components in catalytic systems prepared from $TiCl_3$, monoalkylaluminum dihalides, and

electron-donor substances, in the polymerization of propylene, 403
Zelmer, R. G.: see Smith, W. E.
Ziabicki, A.: see Takserman-Krozer, R.
Zilkha, A., and Avny, Y.: Polymerization of acrylonitrile by electron transfer catalysts, 549
——, Barzarkay, S., and Ottolenghi, A.: Effect of solvents on the anionic polymerization of styrene by phenyllithium, 1831
——: see Ottolenghi, A.
Zimmerman, F. E.: see Owens, F. H.
Zissell, M. J.: see White, E. F. T.
Zlámal, Z., and Kazda, A.: Donor–acceptor interaction in cationic polymerization. V. Influence of some alcohols on the molecular weight of polyisobutylene in polymerization catalyzed by aluminum trichloride, 3199
Zutty, N. L.: Copolymerization studies. IV. Transannular copolymerization of bicyclo[2.2.1] hepta-2,5-diene, 2231
——, and Welch, F. J.: Synthesis of vinyl polymers containing α-substituted γ-butyrolactone groups in their backbones, 2289
——: see Burkhart, R. D.

SUBJECT INDEX, VOLUME 1

Acrylic acid copolymers, 1227
Acrylonitrile, anionic polymerization of, 3643
  copolymerization of, 705
  polymerization by electron transfer catalysts, 549
  polymerization in dimethylsulfoxide, 2189
  termination of anionic polymerization at low catalyst concentrations, 687
Adhesion, relationships between visco-elasticity, interfacial equilibrium, and the temperature dependence of, 2241
  via the interfacial deposition of amphiphatic molecules, 2343, 3523
Adhesive failure, locus of, 1339
Afterglow studies, luminescent compounds in solid polymers, 3067
Aldehydes, copolymerization of, 3439
Alicyclic epoxides, polymerization with aluminum alkyl catalysts, 2777
Alkyl methacrylates, diffusion-controlled polymerization of, 1311
Allene, polymerization, by organometallic initiation, 655
Allylic compounds, polymerization studies on, 1919
Aluminum alkyl catalysts, polymerization of alicyclic epoxides with, 2777
Aluminum alkyl–titanium trichloride catalyst, copolymerization with, 1439
Amine-epoxide adducts, hydrogen bonding, 385
3,3-Bis(aminomethyl)-oxetane, polymeric derivatives of, 2525
Amorphous high polymers, 3459, 3477
Amphipathic molecules, adhesion via the interfacial deposition of, 2343, 3523
Anionic block polymerization, styrene on polystyrene, 2171
Anionic polymerization, homogeneous, 443, 461, 475
  of acrylonitrile, 3643
  of styrene, effect of solvents on, 1831
  termination, of acrylonitrile, 687
Antistatic behavior, 169
Archibald ultracentrifugal method, study of dilute polymer solutions, 3303
Aromatic polyimides, 3135
N-Arylmethacrylamides, solid state polymerization of, 1909
Azrechtic acid, gums viscosity of, 1429
Bicyclo[2.2.1]hept-2,5-diene, transannular copolymerization of, 2231
Biocolloids, 1429
Birefringence, of Viton fluoroelastomer, 1
Branched macromolecules, molecular configuration of, 227
Bulk copolymerization, methyl methacrylate with phenyldichlorophosphine, 1963
Butadiene, stereospecificity of a Ziegler catalyst used in the polymerization of, 2003
Butyllithium, 475
  kinetics of butadiene and isoprene polymerization with, 1735
γ-Butyrolactone, synthesis of vinyl polymers containing α-substituted, 2289
ε-Caprolactam, copolymerization of, 111
Carbon black substitutes, 3489
Carbonium ion rearrangement, in cationic polymerization of branched alpha olefins, 2299
Carboxymethylcellulose, 2881
Catalysts, electron transfer, 549
  separated aluminum alkyl–titanium tetrachloride, for isoprene polymerization, 373
Cationic polymerization, donor–acceptor interaction in, 3199
  fundamental studies, 331, 789
  radiation-induced, of ethylene, 1049
Cell theory, amorphous high polymers, 3459
Cellulose, acid behavior of carboxylic derivatives of, 2881, 2893
  crystallinity and structure, 671
  dry swollen, calorimetric measurements of heat of sorption of water vapor on, 3333
  filaments, regenerated, crystallite orientation in, 1185
  grafting vinyl polymers onto, 1257
  γ-irradiated, electron spin resonance of, 1163
Cellulose–*d,l*-butadiene diepoxide reaction, 3407
Cellulose acetate, thermodynamic properties of solutions of, 733
Cellulose nitrate, thermodynamic properties of solutions of, 733
Cellulose triacetate, crystals, hydrolysis of, 1893
  growth and morphology of single crystals of, 1875
  thermodynamic properties of solutions of, 1985
Chain dimensions, for semicrystalline macromolecules, 301
Chain scission processes, evaluation of molecular weight averages resulting from, 3175
2-Chloro-1,3-butadiene systems, relative reactivity ratios, for, 2163
Chrysophenine G, diffusion into viscose sheet, 3105
Coacervation, fractionation of polypropylene by, 393
Cole–Cole diagram, for methylcellulose in water, 151
Conformations, helical, stability of, 1383

Counterion binding, in partially neutralized copolymers of crotonic acid and vinyl alcohol, 2127
Critical molecular weight, 2039
Crosslinking, kinetic study of, 799
radiation-induced, 2731
Crystal–crystal transition, in poly-1-butene, 59
Crystal structure studies, on polymorphic forms of nylons 6 and 8 and other even nylons, 1055
Crystalline high polymers, properties of melt-blends, 3427
linear, thermodynamics of, 3579
Crystalline lattice of polyethylene, thermal breakdown of, 3579
Crystalline order, in nylon 66, 715
Crystalline polymers, theory of the modulus of, 1995
Crystallite orientation, in regenerated cellulose filaments, 1185
Crystallization, of high polymers, studies by differential thermal analysis, 2697
mechanism of secondary, 2031
of polyacrylonitrile, 2765
Cubic lattice chain, three-choice, calculation of displacement distance, 1069
1,5-Cyclooctadiene, transannular polymerization of, 2935
Diallyl phenyl phosphine oxide, copolymerization of, with *n*-lauryl methacrylate, 3357
Depolarization measurements, of polymer solutions in high dilutions, 517, 921
Dibutylzinc, cocatalysts for the linear polymerization of epoxides by, 85
Dicumyl peroxide, crosslinking of natural rubber by, 1015
trans-1,2-Dideuteroethylene, and *cis*-1,2-dideuteroethylene by a Ziegler catalyst, 2925
Dielectric dispersion, effect of ions on, 2791
Diene polymers, melting transitions, 159
Differential thermal analysis, crystallization of high polymers by, 2697
of high polymers, material and experimental factors, 1453
Diffusion coefficients, effect of solid polymer interaction on, 549
Diffusion constants, of a maltosaccharide series, 817
Dimaleimides, accelerators for radiation-induced vulcanization of hydrocarbon polymers, 2537
2,2-Dimethylaminoethyl methacrylate, preparation and properties of copolymers of, 1473
2,3-Dimethylbutadiene-1,3, emulsion polymerization of, 2679
Dimethylsulfoxide, polymerization of acrylonitrile in, 2189
Diphenylvinylphosphine oxide, ionic polymerization of, 3627
Dipole moments, of Viton fluoroelastomer, 1
Distribution, order of, in cellulose, 243
particle size, in polymer solutions, 577
DNA, graft copolymer of polyacrylic acid with, 2309
Dynamic modulus, tensile, apparatus for measuring, 1585; *erratum*, 3668
Ebullioscope, for high polymers, 2753
Elastomers, mastication of, 2261
nitroso fluorocarbon, 565
tensile properties of, 3595
Elastoosmometry, determination of number-average molecular weights by, 2335
Electron-donor substances, catalytic systems prepared from, 403
Electron exchange polymers, 1971
Electron spin resonance, of gamma-irradiated cellulose, 1163
of polypropylene, 2251
Electron spin resonance studies, reaction of gases with radicals formed in irradiated polytetrafluoroethylene, 3537
of peroxide radicals in irradiated polypropylene, 2109
Ellipsoids, rigid, orientation in a dilute solution, 491
rigid, viscosity of dilute solutions containing, 507
Elution fractionation, crystalline polypropylene, 2361
Emulsion polymerization, Co^{60} gamma ray initiated, 3009
Epoxides, linear polymerization, 85
Ethylcyclohexane, 255
Ethylene, cationic copolymerization, radiation-induced, 1049
model copolymerizations, reactivity ratios of, 1137
polymerization with alkyl-promoted transition metal catalysts, 2587
Ethylene–propylene copolymers, crystallinity in, 2119
properties of rubber obtained from, 3567
Exoxysuccinyl chloride, polymeric derivatives of, 2525
Failure envelope, characterization of elastomer by, 3595
Fibers, dynamic bending properties of, 2240
Fracture processes, in polymeric materials, 993
Gas transmission, in irradiated polyethylene, 895
Gaseous diffusion, through polymers, 3477
Gelatin, kinetic study of the crosslinking of, by formaldehyde and glyoxal, 799
Glass temperature depression, by plasticizers, molecular interpretation of, 1417
Graft copolymers, of polyacrylic acid with DNA, 2309
Graft, copolymerization, high energy radiation-induced, 1257
kinetics of, on preirradiated polymethyl methacrylate, 2085
radiation-induced, of styrene to nylon, 639
Heterogeneous polymerization, rate study of methyl acrylate in aqueous solution, 877
High polymers, crystalline, linear, 357

Homogeneous anionic polymerization, 1735
Homopolymers, kinetics of nucleation and growth of spherulites in, 3317
Hydrogen bonding, in amine-epoxide adducts, 385
Hydronopoxyalkanols, polymers derived from unsaturated esters of, 1543
Intrinsic viscosity, in polyisobutylene–*n*-alkane systems, 3265
of polymers undergoing simultaneous degradation and crosslinking, 3289
Inversion temperature, theory of, 331
Ion-enchange resins, activity of small ions in, 139
Ionic polymerization, of diphenylvinylphosphine oxide, 3627
Ionized polymers, turbidimetric method for estimation of, 3385
Irradiated acrylic acid, ESR study of, 3373
Isoprene, polymerization, catalysts, 373
Lactames, reaction mechanism of the alkaline polymerization of, 1627
Lactam derivatives, effect of amide group on the polymerizability of, 3151
n-Lauryl methacrylate, copolymerization of diallyl phenyl phosphine oxide with, 3357
copolymerization of phosphonates with, 3343
Light scattering studies, on sugar beet arabans, 1005
Lithium alkyls, 461
Lyotropic series, role of ions in, 3547
Macromolecules, flexible chain, molecular orientation in dilute solutions containing, 2477
flexible chain, viscosity of dilute solutions containing, 2487
reaction kinetics and tacticity of, 1227
Magnesium halides, catalytic reactivity of, 1937
Maleic anhydride, homopolymerization of, 1115
preparation and properties of copolymers of, 1473
Maltosaccharide series, diffusion constants of, 817
Membranes, heterogeneous, 2565
Metallic chelates, of oxine–formaldehyde polymers, 3655
role in polymerization initiation, 2179, 2185
Metal chelate polymers, from tetraacetylethane, 267
Methacrylamide, solid state polymerization of, 1909
Methyl acrylate, study of rate of heterogeneous polymerization, 877
Methylcellulose, in water, dielectric relaxation time spectrum, 151
Methylcellulose solutions, molecular weight and aggregate formation in, 311
Methylenebis(*p*-carboxyphenyl)amide, crystalline and high melting polyamidepolyanhydrides of, 1323
Methyl methacrylate, bulk copolymerization of, 1963
polymerization, effect of pressure on the stereochemistry of, 2271
polymerization, primary radical termination in, 3209
thermodynamic properties of, 1701
4-Methyl-1-pentene, dynamic properties of homo- and copolymers of, 1239
α-Methylstyrene, polymerization with $Al(C_2H_5)_3$–$TiCl_4$ catalyst, 2407
Molecular orbital theory, of reactivity, in radical polymerization, 1405
Molecular weight averages, evaluation for wide Schulz–Zimm distributions, 3175
Molecular weight distribution, by velocity ultracentrifugation (*erratum*), 3668
Monoalkylaluminum dihalides, catalytic systems prepared from, 403
Monomer reactivity ratios, molecular orbital calculation (*erratum*), 1088
tracer techniques for the determination of, 2819
Natural rubber, crosslinking by dicumyl peroxide, 1015
proton magnetic resonance in, 2905
Newtonian viscosity number, the second, 1201
p-Nitrobenzeneazotyrosine, coordination compounds, 3449
Nitroolefins, synthesis, and ability to polymerize, 599
Nitrosation, of linear phenol–formaldehyde polymers, 3615
Nonpolar solvents, effect on viscosity and molecular weight, 233
Nonrandom copolymers, synthesis of styrene–methyl methacrylate, in emulsion solutions, 2419
Nuclear magnetic resonance, in polypyrrolidone, 2279
Nuclear magnetic resonance study, of molecular chain structure of polyvinylidene fluoride, 1305
of polydimethylsiloxanes, 2731
Nucleating effect, on the kinetics of crystallization, 2013
Number-average molecular weights, determination by elastoosmometry, 2335
Nylon, graft polymerization of, to styrene, 639
Nylon 6, spherulites of, 2013
Nylons 6 and 8, crystal structure studies on polymorphic forms, 1055
Nylon 66, crystalline order in, 715
turbidimetric titration of, 2667
Olefins, aliphatic, and styrene, copolymerization of 2021
α-Olefins, carbonium ion rearrangement in the cationic polymerization of branched, 2299
competing side reactions in the polymerization of, 2467
Olefin polymerizations, 1839
Organometallic compounds, reaction of polymeric radicals with, 1553
Organo-sulfur compounds, mechanism of stabilization, 3499
Osmotic pressure measurements, 2439
Ovalbumin solution, effect of ions on the dielectric dispersion of, 2791

Oxine–formaldehyde polymers, and their metallic chelates, 3655
Oxycellulose, 2893
Penton, viscoelastic studies, 3079
Peroxide radicals, electron spin resonance study of, in polypropylene, 2109
Phenol–formaldehyde polymers, nitrosation of, 3615
Phenyldichlorophosphine, bulk copolymerization of methyl methacrylate with, 1963
Phenyllithium, effect of solvents on the anionic polymerization of styrene by, 1831
Phosphonates, copolymerization of, with *n*-lauryl methacrylate, 3343
Phosphonitrilic chloride trimer, polymerization at high pressures and temperatures, 823
Photochlorination, of polymethyl methacrylate, 2711
Photolytic degradation, of polymethyl methacrylate, 1079
Plastics, ultraviolet irradiation of, 2741
Polar solvents, effect on viscosity and molecular weight, 233
Polyacrylamide, in aqueous solution, 849
Polyacrylates, diffusion of benzene in, 1799
Polyacrylic acid, graft copolymers of, with DNA, 2309
  temperature dependence of magnesium chloride interaction with, 1955
Polyacrylic anhydride, structure of, 1491
Polyacrylonitrile, crystallization and melting behavior of, 2765
  deuterated, infrared absorption spectra of 3029
  dry-heated, photosensitivity of, 2135
Polyaldehydes, optical rotatory properties of, 2193
Polyamides, containing phosphorus, 863
  oriented, radiation damage, 189
6–10 Polyamide, viscosity–molecular weight relationship and some molecular characteristics of, 1147
Polyanhydrides, synthesis of, 1323
Polybenzimidazoles, 1531
Poly(γ-benzyl L-glutamate), dynamic shear behavior, 1483
Polybutadienes, infrared spectra and structures of, 47
  structure effects and related polymer properties in, 2945
Poly-1-butene, kinetics of crystallization, 59
Polybutyl methacrylates, radiolysis of isomeric, 277
Poly(*n*-butyl methacrylate), hydrodynamic properties and statistical coil dimensions, 985
Polycarbonate, degradation of, by ionizing radiation, 1671
  isomorphism in, 1645
  rheological measurements on, 3395
Polycondensation, interfacial, 1147
Poly-1,3-cyclohexadiene, preparation and aromatization, 2057
Polydiacrylylmethane, 3261
Polydicarboxylic acid copolymers, high frequency titration, 1609
Polydideuteroethylene, stereoregulated, 2925
Polydimethylsiloxanes, NMR studies of, 2731
Polyelectrolytes, 1429
Polyelectrolyte–salt solutions, additivity of osmotic properties of, 2093
  rodlike, thermodynamic properties of, 1501
Polyelectrolyte solutions, colligative properties, 3231
Polyethylene, adhesion to aluminum, 2343, 3523
  with *n*-alkanes, 3217
  anomalous brittleness, temperatures of, 2075
  effect of pressure on the crystallization of, 1245
  electron spin resonance study of radiation oxidation of, 605
  influence of copolymer units on the thermodynamic properties of, 357
  irradiated, gas transmission, 895
  linear, molecular weight distribution, 103
  long-chain branching frequency in, 2869
  molecular motion in, 1175
  molecular structure, 1721
  oxidative crosslinking of, by ultraviolet light, 1345
  radiation dosimetry in, 2145
  single crystals, morphology of, 1901
Polyethylene oxide, irradiation of, 2155
Poly(ethyl vinyl ether), dynamic shear behavior of, 1483
Polyglycol autoxidations, influence of transition metal salts in, 2551
Polyisobutylene, melt viscosity, 1865
Polymethyl methacrylate, in aqueous suspension, photochlorination of, 2711
  grafting to granular corn starch, 1025
  photolytic degradation, 1079
  preirradiated, examination of kinetics of graft copolymerization on, 2085
  thermodynamic properties, 1701
  in various solvents, 2651
  viscosities of dilute solutions, 929
  molecular structure obtained by Ziegler catalysis, 2225
  self-diffusion and nuclear relaxation in, 1709
Polyisobutylene–*n*-alkane systems, application of Prigogine solution theory to intrinsic viscosities in, 3265
Polyisoprene, infrared spectra and structures of, 37
  molecular weight of, initiated by butyllithium, 475
cis-Polyisoprene, masticated, synthetic, solution properties of, 2261
Polyitaconic acid-*Co*-styrene, 1609
Polymaleic acid-*Co*-styrene, 1609
Polymer chain dimensions, diluent effects, 1947
Polymer crystal growth, from concentrated solutions, 763

Polymer semiconductors, resistivity studies on, 2207
Polymer solutions, behavior in velocity field, 2477, 2487
polymer–solvent interaction, 2395
Polymer–solvent systems, phase equilibria of, 3217
Polymer systems, branched, orientation and strength, 1789
Polymeric solids, mechanical aspects of swelling and shrinking (*erratum*), 1472
Polymeric transfer constants, of vinyl acetate, 3043
Polymerization processes, enthalpy and free energy changes in, 1979
Polymethacrylamide, in aqueous solution, 849
Polymethacrylates, radiation degradation of, 1651
Polymethacrylic acid, influence of $_1H$ of polymerization medium on stereochemical configuration, 843
Poly (4-methyl pentene), x-ray measurement of crystalline density and observation of a structural anomaly, 2219
Poly-α-methylstyrenes, preparation and properties of, 1927
Polyolefin, molecular weight distribution, 1839
Poly-α-olefin, properties, effect of side-chain structure on, 751
Polyoxyethylene glycols, ebulliometric and endgroup molecular weights of, 2213
Polyoxymethylene, crystal structure of new form, 965
structure of normal crystal form, 1573
Polyoxypropylene glycols, ebulliometric and endgroup molecular weights of, 2213
Polypropylene, crystalline, elution fractionation of, 2361
effects of high energy irradiation on, 2805
electron spin resonance of, 2251
electron spin resonance study of radiation oxidation of, 625
electron spin resonance study of peroxide radicals in, 2109
fractionation by coacervation, 393
irradiation of, 2155
molecular weight distribution, 411
polymerization, kinetics of, 425
structure, 2317
Polypropylene glycol 2025, molecular weight distribution in, 1041
Poly(D,L-propylene oxide), dynamic shear behavior, 1483
Polypyrrolidone, solid, nuclear magnetic resonance in, 2279
Polysaccharides, crystalline, infrared spectrum, 1687
highly substituted cationic derivatives of, 3511
linear, branched, depolarization of scattered light in solutions of, 289
solution properties, 311
Polystyrene, in benzene, molecular configuration of, 2387
Polystyrene, effect of molecular weight distribution on the optical properties in the transition region, 2857
in ethylcyclohexane, critical opalescence, 255
γ-irradiated, electron spin resonance spectra of, 1521
high impact, unsaturation in, 347
melt viscosity of, 1857
molecular weight of, initiated by lithium alkyls, 461
molecular weights of, initiated by sodium naphthalene, 443
narrow molecular weight distribution, 1749
solutions, birefringence of, 1765
Polytetrafluoroethylene, growth of single crystals from the melt, 2843
Polytrifluorochloroethylene, stereochemical configuration, 833
Polyvinyl alcohol, derived from syndiotactic polyvinyl formate, 951
stereoregularity in, 1509
ultraviolet absorption spectrum, 1215
Poly(vinyl chloride), electron spin resonance study of radiation oxidation of, 625
influence of tetrahydrofurane on the radioreticulation of, 943
infrared spectra and assignments for, 2621
plasticized, viscoelastic behavior of, creep, 2511
plasticized, viscoelastic behavior of, stress relaxation, 2497
Polyvinyl formate, syndiotactic, and derived polyvinyl alcohol, 951
Polyvinylidene fluoride, NMR study of molecular chain structure of, 1305
Polyvinylphthalic acid, effect of crystallization on thermal stability, 321
phthalocyanine-crosslinked, 2383
Prigogine solution theory, application to intrinsic viscosities, 3265
helical structure, 1099
radiation effects in, 1621
reaction of gases with the radicals formed in irradiated, 3537
rheology of, 483; *erratum*, 1472
Probability matrices, for semicrystalline macromolecules, 301
Propylene, polymerization by the Phillips catalytic system, 2989
polymerization, nature of active components in catalytic systems, 403
dl-Propylene oxide, polymerization of, with optically active catalyst systems, 1105
α-Pyrrolidone, copolymerization of, 111
Q-e calculations, reactivity ratios used in, 1137
Radiation dosimetry, in polyethylene with silicon solar cells, 2145
Radiation oxidation of polymers, electron spin resonance study of, 605, 625
Radical-anion, polymerization, 15
Radiolysis, of isomeric poly(butyl methacrylates), 277
Random crosslinking, evaluation of

molecular weight averages resulting from, 3175
Rat tail tendon, kinetic analysis of swelling of, 23
Reactivity ratios, monomer, determination, 217
of model ethylene copolymerizations and their use in *Q-e* calculations, 1137
Relaxation processes, liquid, reference point for, 1857, 1865
Relaxation time, on polymers in vicinity of critical molecular weight, 2039
Rheology, of polytetrafluoroethylene, 483; *erratum*, 1472
Rotation, unrestricted, in polymers, 2459
Rubber, elastic properties of, 3567
filled, diffusion in, 2565
synthetic, 2537
Schulz–Zimm distributions, wide, 3175
Sedimentation velocity analysis, 103
Semiconducting polymeric materials, production and study, 591
Semicrystalline macromolecules, 301
Side-chain structure, effect on poly-α-olefin properties, 751
Sodium hyaluronate films, strain birefringence, 725
Sodium naphthalene, 443
Sodium polyacrylates, conductivity and viscosity measurements of, 3021
p-Sodium styrene sulfonate, copolymerization of, 705
Solid polymers, interactions of low molecular weight compounds with, 2327
Solution polymerization, some novel effects of, 1465
Spectroscopy, polymer NMR, 833, 843, 849
Starch, crystallization in, 3547
State relations, corresponding, for viscosity of moderately concentrated polymer solutions, 1089
Static electricity, in polymers, 169
Stationary random sequences, general theory of, 3183
Statistical thermodynamics, for semicrystalline macromolecules, 301
Stereospecific polymerization, of vinyl alkyl ethers, 3277
Steric structures, in copolymerization, 1601
Strain birefringence, of sodium hyaluronate films, 725
Stress relaxation, of Viton fluoroelastomer, 1
theoretical calculations of, 1779
Stretched crystalline elastomers, fibrous structure in, 3091
Styrene, and aliphatic olefins, copolymerization of, 2021
copolymerization with aluminum alkyl–titanium trichloride catalyst, 1439
graft polymerization of, to cellulose, 1257
graft polymerization of, to nylon, 639
inhibition kinetics of the polymerization of, 1353, 1369
Styrene derivatives, polymerization in liquid sulfur dioxide, 2965
Styrene–isoprene copolymerization, monomer reactivity ratios for, 2819
Suberaldehyde, preparation and polymerization of, 2831
Synergistic antioxidant combinations, 3489, 3499
Tetraacetylethane, metal chelate polymers derived from, 267
Tetrahydrofurane, influence on the radioreticulation of polyvinyl chloride, 943
Thin polymer films, apparatus for measuring dynamic tensile modulus, 1585; *erratum*, 3668
Titanium dioxide–poly(vinyl acetate–vinyl chloride), copolymer films, 541
α-Titanium trichloride—diethylaluminum chloride kinetics of polypropylene polymerization catalyzed by, 425
α-Titanium trichloride-methyl polyethyl complex, stereospecific action (*erratum*), 1472
Tracer techniques, determination of reactivity ratios by, 217
Transannular polymerization, of 1,5-cyclooctadiene, 2935
Transition metal catalysts, ethylene polymerization with alkyl-promoted, 2587
Transition metal salts, influence in polyglycol autoxidations, 2551
Transition temperature, effect of solid polymer interaction on, 549
Trinitrobenzene, substituted, effect on polymerization of styrene, 1369
s-Trinitrobenzene, effect on the polymerization of styrene, 1353
Turbidimetric titration, of nylon 66, 2667
Unsaturation, in high impact polystyrene, 347
Velocity field, behavior of polymer solutions in, 491, 507
Velocity ultracentrifugation, molecular weight distribution by (*erratum*), 3668
Vibrating reed, transient analysis, 1693
Vinyl alkyl ethers, stereospecific polymerization of, 3277
9-Vinylanthracenes, and 1-, polymerization of, 1635
N-Vinylcarbazole, polymerization with Zeigler-type catalyst systems, 125
Vinyl ethers, polymerization with magnesium compounds, 1937, 2371
Vinylhydroquinone dibenzoate, copolymerization behavior of, 1971
Vinyl 12-hydroxystearate, preparation and polymerization of, 2067
Vinyl polymers, containing α-substituted γ-butyrolactone groups in their backbones, 2289
Vinyl-type polymers, studies on configuration and conformation (*erratum*), 1472
Viscoelastic behavior, of polyvinyl chloride, 2497, 2511
Viscoelastic fluids, anisotropic properties of, 1765
Viscosity, of critical mixtures, 249

Viton elastomer, thermodynamic study of, 2049
Viton fluoroelastomer, 1
Vulcanization, radiation-induced, 2537
Water sorption, 541
Weissenberg effect, theory for surface elevation, 261
Wheat starch, chemical and physicochemical properties of, 2601
Xylylene dibromides, polycondensation by transition metals in water suspension, 2101
Zone-refining fractionation, 3163
Ziegler catalyst, changes in the stereospecificity of, 2003
Ziegler-type catalyst systems, 125
Ziegler-type polymerizations, a kinetic scheme for, 203